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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/960,727	09/24/2001	Toshio Kambe	011283	4209

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ARMSTRONG, KRATZ, QUINTOS, HANSON & BROOKS, LLP  
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WASHINGTON, DC 20006

EXAMINER
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HOEY, BETSEY MORRISON

ART UNIT	PAPER NUMBER
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1724

DATE MAILED: 12/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/960,727

Applicant(s)

KAMBE ET AL.

Examiner

HOEY, BETSEY

Art Unit

1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15-18 is/are allowed.
- 6) ☒ Claim(s) 1-6, 11, 12 and 19 is/are rejected.
- 7) ☒ Claim(s) 7-10, 13 and 14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 September 2001 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Katou et al.,

U.S. Patent No. 6,158,721. Katou et al. disclose an apparatus for controlling the resistivity of ultra pure water comprising a housing containing a gas permeable membrane, a flow path for ultra pure water being treated, a flow path for gas that communicates with the exterior of the housing via an inlet and supplies gas to the ultra pure water at a concentration equal to or higher than 90% of the equilibrium concentration, an inlet for ultra pure water to be treated, and an outlet for treated ultra pure water. It is submitted that the gas flow path of Katou et al. is structurally capable of supplying carbon dioxide as a mixed gas.

3. Claims 2-6, 11, 12 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Katou et al. Katou et al. disclose an apparatus as described above, which is structurally capable of contacting ultra pure water with carbon dioxide as a mixed gas. The apparatus further includes a valve for controlling pressure. The membrane of Katou et al. is a hollow-fiber membrane. When operating the apparatus of Katou et al., if an internal water-flow type is used, the gas is supplied to the space between the outside of the membranes and the housing and the water flows inside the membranes. If an external water-flow type is used, the reverse occurs. It is submitted

that the apparatus of Katou et al. is patentably indistinguishable from an apparatus which is capable of supplying air as a mixed gas containing carbon dioxide. Applicant is reminded that apparatus claims must be distinguished from the prior art in terms of what it is and not what it does (see MPEP §2114).

4. Claims 7-10, 13 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is a statement of reasons for the indication of allowable subject matter:

Claims 7, 8, 13 and 14 would be allowable if rewritten in independent form including all of the limitations of claims the claims upon which they depend, because the prior art of record fails to teach, disclose, or fairly suggest an apparatus for controlling the resistivity of ultra pure water comprising a device for maintaining a constant flow rate of a mixed gas, in combination with all of the other limitations of the claims upon which 7 and 8 depend. It is submitted that the apparatus of Katou et al. is specifically designed to operate with the gas being supplied at a varying rate (column 8) and therefore teaches away from the inclusion of a device for maintaining a constant flow rate of gas.

Claims 9 and 10 would be allowable if rewritten in independent form including all of the limitations of claims the claims upon which they depend, because the prior art of record fails to teach, disclose, or fairly suggest an apparatus for controlling the resistivity of ultra pure water comprising a carbon dioxide gas generator, in combination with all of the other limitations of the claims.

Claims 15-18 are allowed because the prior art of record fails to teach, disclose, or fairly suggest a method for controlling the resistivity of ultra pure water comprising supplying a mixed gas with a flow of ultra pure water, or contacting the ultra pure water with a mixed gas, wherein the mixed gas comprises either carbon dioxide and a gas having a lower resistivity controlling ability than carbon dioxide, or ammonia and a gas having a lower resistivity controlling ability than ammonia, in combination with all of the other limitations of claim 15 or claim 16, respectively. It is submitted that while Katou et al. discloses a similar process including the use of carbon dioxide, and carbon dioxide which is not completely pure will inherently contain other gases, there is no suggestion in Katou et al. of a mixed gas comprising either carbon dioxide *and a gas having a lower resistivity controlling ability than carbon dioxide*, or ammonia *and a gas having a lower resistivity controlling ability than ammonia*.

6. Applicant argues that the rejected claims differ from Katou et al. because the instant claims recited that mixed gas is present in the apparatus, and that Katou et al. do not disclose the use of mixed gas. However, Applicant is reminded that:

*"While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. In re Schreiber, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997)" (MPEP §2114).*

The fact that Applicant's invention is *intended to have mixed gas present within* does not overcome the rejections.

7. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

Art Unit: 1724

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Betsey Hoey whose telephone number is **(571) 272-1158**. The examiner can normally be reached on Tuesdays and Thursdays from 7:00 AM to 3:30 PM. The examiner's supervisor, Mr. Blaine Copenheaver, may be reached at (571) 272-1156. Any inquiry of general nature may be directed to the Group receptionist at (571) 272-0987. The centralized fax number for the Group is (703) 872-9306. The examiner Rightfax number is (571) 273-1158.

*Betsey M. Hoey*  
**BETSEY MORRISON HOEY**  
**PRIMARY EXAMINER**

December 20, 2003